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11178 : AE005524 Escherichia coll
26658 : AP002563 Escherichia coll
2866 : J03732 E.coll arabinose-pro
9800 : AE000368 Escherichia coll K
10755 : AE005513 Escherichia coll K
                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 4126)

Stavrides, G.S., Hashim, Y., Huckle, E.J. and Deloukas, P.

Direct Submission

L. Submitted (24-JAN-2000) E-mail contact: humquery@sanger.ac.uk

On Nov 23, 2000 this sequence version replaced gi:11065679.

This CDNA sequence was assembled from public domain ESTs and single pass sequencing reads from expressed DNA templates, aligned to the genomic DNA sequence from the bacterial clone 28H20 (AL031055). The EST sequences listed match this sequence with an identity of at least 93% between the coordinates shown.

Further information can be found at http://www.sanger.ac.uk/HGP/Chr20/ Sanger Centre name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LGRAVVGFAISLSSMACCIYVSELVGPRQRCVLVSILTEGAITVGILLSYALMYALAGT
PWGRRHMFGWATAPAVLQSI.ELFUPAGTDETATHKDLIPLQGGEAPKI.GPGRPRYSF
LDLFRANDIMRGRTTVGIGLYLFROQLIAGOPNULCYASTIFSSYGFHGGSSAVLASVGL
GAVKVAATLTAMGLVDRAGRRALLLAGGANLACLASGIGLVSFAVPHDSGPSGLAVPA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /translation="MCHSPPVLPLCASVSLLGGLTFGYELAVISGALLPLQLDFGLSC
LEQEFLVGSLLLGALLASLVGGFLIDCYGRRQAILGSNLVLLAGSLTLGLAGSLAWLV
                                                                                                                                                             HS28H201 4126 bp mRNA PRI 21-NOV-2000 NOVel human gene mapping to chromosome 20, similar to membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2095. .2137
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 1.3e-16
3.0e-15
3.6e-17
1.2e-16
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1, 4126
/ Organism="Homo sapiens"
/ db_xref="taxon:9606"
/ chromosome="10"
 447.13
422.35
456.85
447.24
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1420. .1555
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                                                                                                                                                                                                    transporters.
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LOCUS HS28H201
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                                                                                                           seq_name: gb_pr:HS28H201
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| AL161544 Arabidopsis thalfar
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                                                                                                                                   Results were produced by the GenCore software, version 4.5, Copyright (c) 1993-2000 Compugen Ltd.
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.2e-27
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Database length: -341344837
Search time (sec): -1293.340000
                                     Date: Mar 15, 2002 7:52 AM
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Query: US-09-652-292-2
Query length: 541
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                                                                        About: Results were
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9b_pl.AZ21881
9b_pt.AX120287
9b_pt.AX12085
9b_pl.ATREX6
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/note="matches EST AM298256 from clone IMAGE:2733069"
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/note="matches EST AM298999 from clone IMAGE:304871"
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// note="matches EST W31922 from clone IMAGE:291802"
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// note="matches EST AA489718 from clone IMAGE:82360"
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// note="matches EST AA403072 from clone IMAGE:758347"
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// note="matches EST AA232787 from clone IMAGE:66656"
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// note="matches EST AA007344 from clone IMAGE:429263"
// note="matches EST AA3430 from clone IMAGE:1932055"
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complement(3608._3974)
/note="matches EST A1088144 from clone IMAGE:1683131"
complement(3625._4126)
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//octe="matches EST A1042706 from clone IMAGE:1431595"
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complement(join(3596, .3619,3642, .4038))
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complement(join(3596, .3619,3642, .4038))
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// Note="matches EST A1081145 from clone IMAGE:1680293"

// Note="matches EST A1081145 from clone HBMSC_cr08b03"

// Note="matches EST A1053293 from clone HBMSC_cr08b03"

// Note="matches EST A1097288 from clone IMAGE:1707216"

// Note="matches EST A129231 from clone IMAGE:1894742"

// Note="matches EST A1292321 from clone IMAGE:1894742"

// Note="matches EST A129331 from clone IMAGE:1894742"

// Note="matches EST A1793332 from clone HBMSC_cr16c08"
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/note="matches EST AA404352 from clone IMAGE:758347"
complement(join(3626, .3645,3674, .3898,3867, .4126)
matches EST AV650673 from clone GLCCHC08
matches EST AV650603 from clone GLCCEG10
matches EST AV650406 from clone GLCCEG02
matches EST AV650686 from clone GLCCH009
join(2417. .2711.2711. .2814,3001. .3029)
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Complement (3795. 4124)

// Note="matches EST A1289525 from clone IMAGE:1992441"

// Note="matches EST A1289525 from clone IMAGE:1992441"

// Note="matches EST AN 03571 from clone IMAGE:2614034"

// Note="matches EST AN 03571 from clone IMAGE:2614034"

// Note="matches EST AN 04125)

// Note="matches EST AN 04123)

// Note="matches EST AN 04123)

// Note="matches EST AN 04123)

// Note="matches EST AN 04123]
complement(join(3774. .3898,3867. .4126))
/note="matches EST A1277131 from clone IMAGE:1893578"
complement(3793. .4126)
                                                                                                                                                                       complement(3867. .4126)
/note="matches EST A1753418 from clone HBMSC_cr10b04"
                                                                                                                                                                                            / 126 c 979 g 1167 t com clone IMAGE:1848499" i 1066 c 979 g 1167 t
                            complement(3793. .4126)
/note="matches EST N93207 from clone IMAGE:304871"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  51 ValGlySerLeuLeuLeuGlyAlaLeuLeuAlaSerLeuValGlyGlyPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eLeuIleAspCysTyrGlyArgLysGlnAlaIleLeuGlySerAsnLeuV
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Gaps: 0
Percent Identity: 100.000
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Ratio: 5.111
Percent Similarity: 100.000
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US-09-652-292-2 x HS28H201
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misc_feature
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heLeuproAlaGlyThrAspGluThrAlaThrHisLySAspLeullePro 2: 	LeuGInGlyGlyGluAlaProLysLeuGlyProGlyArgProArgTyrSe 2	rPheteuaspteuPheargalaargaspasmetargGlyargThrThrV 2	alGlyLeuGlyLeuValLeuPheGlnGlnLeuThrGlyGlnProAsnVal 2 	LeuCysTyralaSerThrIlePheSerSerValGlyPheH1sGlyGlySe 2.	rSeralaValLeualaSerValGlyLeuGlyalaValLysValalaAlaT 2:	hrLeuThralaMetGlyLeuValAspargAlaGlyArgArgAlaLeuLeu 3. 	LeuAlaGlyCysAlaLeuWetAlaLeuSerValSerGlyIleGlyLeuVa 3	ISerPhealaValProMetaspSerGlyProSerCySLeuAlaValProA	snalathrGlyGlnThrGlyLeuProGlyAspSerGlyLeuLeuGlnAsp 3	SerSerLeuProProIleProArgThrAsnGluAspGlnArgGluProIl 3	eLeuSerThralaLysLysThrLysProHisProArgSerGlyAspProS 3	erAlaProProArgLeuAlaLeuSerSerAlaLeuProGlyProProLeu 4 	ProAlaArgGlyH1sAlaLeuLeuArgTrpThrAlaLeuLeuCysLeuWe 4	tvalphevalseralapheserPheGlyPheGlyProvalThrTrpLeuv 4	alceuSerGlulleTyrProvalGlulleArgGlyArgAlaPheAlaPhe 4	CysasnSerPheasnTrpalaalaasnLeuPhelleSerLeuSerPheLe 4	uaspleulleGlyThrlleGlyLeuSerTrpThrPheLeuLeuTyrGlyL 4
184	201	217	234	251 759	267	284	301	317 959	334	351 1059	367 1109	384 1159	401	417	434	451 1359	467

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LDLFRARDHMFGRATAPAVLOGSLSELFLPAGTDETATHSVGTFSSYGFGGSAVLASVGL
GAVKNAATLTAMGLVDRAGRRALLLAGCANALSYSGTGLVSFRAYPMDSGPSCLAVPN
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CNSFNWAANLFISLSFLDLIGTIGLSWFTLLYGITAVLGLGFTYLFVPETKGGSLAEI
DQQPQKRRFTLSFGHRQNTGIPYSRTEISAAS"

1090 c 991 g 1170 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo saplens
Eukaryota; Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
Mammalia; Eutherla! Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 4167)
McVie-Wylie,A.J., Lamson,D.R. and Chen,Y.T.
Molecular Cloning of a Novel Member of the GLUT Family of
Transporters, SLC2Al0 (GLUT10), Localized on Chromosome 20q13.1: A
Genodidate Gene for NIDDB Susceptibility
Genodics 72 (1), 113-117 (2001)
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2 (Above 2016)
2 (Above 2017)
3 (Above 2017)
4 (Above 2010)
5 (Above 2010)
5 (Above 2010)
6 (Above 2010)
7 (Above 2010)
7 (Above 2010)
8 (Above 2011)
                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION HOMO Sapiens facilitative glucose transporter GLUT10 (SLC2A10)
ACCESSION AF321240
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                                                                                     1459 TGACCGCTGTCCTCGGCCTGGGCTTCATCTATTTGTTCCTGAAACA 1508
484 euThralaValLeuGlyLeuGlyPheileTyrLeuPheValProGluthr 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo saplens"
/db_xref="taxon:9606"
/chromosome="20"
/map="20q13.1"
                                                                                                                                                                                                                                                                /gene="SLC2A10"
53. .1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="SLC2A10"
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Quality: 2765.00
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TITLE
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PUBMED
REFERENCE
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Length:

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                                                                                                              LeuValLeuGlyArgAlaValValGlyPheAlaIleSerLeuSerSerMe
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Gaps: 0
Identity: 100.000
                                       to: 4167
       Percent
                                       from: 1
                                       Align seg 1/1 to: AF321240
Ratio: 5.111
Percent Similarity: 100.000
                          x AF321240
                  alignment_block:
US-09-652-292-2
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12-APR-2001 complete cds.
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                                                                                                                                                                       367
                                                                                                                                                                                                                                                                             417
                                                                                                                                                                                                                                                                                                                434
                                                                                                                                                                                                                                                                                                                                                                                                                      484
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                                                                                               snAlaThrGlyGlnThrGlyLeuProGlyAspSerGlyLeuLeuGlnAsp
                                                                                                                                                                              1503 TGACCGCTGTCCTCGGCCTTCATCTATTATTTGTTCCTGAAACA
                                                                                                                                                                      SerSerLeuProProlleProArgThrAsnGluAspGlnArgGluProll
                                                                                                                                                                                                                                                                                                                                                                                  CysAsnSerPheAsnTrpAlaAlaAsnLeuPheIleSerLeuSerPheLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1553 AAAGGCCAGTCGTTGGCAGAGATAGACCAGCAGTTCCAGAAGAGACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eThrLeuSerPheGlyHisArgGlnAsnSerThrGlyIleProTyrSerA
                                                                                                                                                                                                                                                                                                                                                                                                                                                     484 euThrAlaValLeuGlyLeuGlyPheIleTyrLeuPheValProGluThr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 transporter (GLUT10) mRNA,
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    AE248053 4396 bp
    DEFINITION Homo sapiens glucose
    ACCESSION AF248053
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134

150 700 750 184 800 200 850 217 900

167

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1151 CTAGCTGGCTGTGCCCTCATGGCCCTCAGTGGCATAGGCCTCGT 1200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84 alLeuLeuAlaGlySerLeuThrLeuGlyLeuAlaGlySerLeuAlaTrp
                                                                           talacysCysIleTyrValSerGluLeuValGlyProArgGlnArgGlyV
                                                                                                                                                                                                                                         GGCTTGCTGTATCTACGTGTCAGAGCTGGTGGGGCCACGGCAGCGGGAG
                                                                                                                                                                                                                                                                             651 TGCTGGTGTCCCTCTATGAGGCAGGCATCACCGTGGGCATCCTGCTCTCC
                                                                                                                                                                                                                                                                                                                                                      TyralaLeuAsnTyralaLeuAlaGlyThrProTrpGlyTrpArgHisMe
                                                                                                                                                                                                                                                                                                                                                                      tPheGlyTrpAlaThrAlaProAlaValLeuGlnSerLeuSerLeuLeuP
                                                                                                                                                                                                                                                                                                                                                                                                                                                 heLeuProAlaGlyThrAspGluThrAlaThrHisLyaAspLeuIlePro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuGlnGlyGlyGluAlaProLysLeuGlyProGlyArgProArgTyrSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuCysTyrAlaSerThr11ePheSerSerValG1yPheH1sG1yG1yG1ySe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 LeualaGlyCysalaLeuMetAlaLeuSerValSerGly1leGlyLeuVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       317 ISerPheAlaValProMetAspSerGlyProSerCysLeuAlaValProA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                334 snAlaThrGlyGlnThrGlyLeuProGlyAspSerGlyLeuLeuGlnAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerSerLeuProProlleProArgThrAsnGluAspGlnArgGluProIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 851 crecadedadercadecececaadercegegegegegecaegeracre
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                                                                                                                                                                                                                                                                                                                                                     151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /LTABLALLON-"MOHSPPVLPLCASVSLLGGLTFCYELAVISGALLPLOLDFGLSC
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CNSFNNAAMTFISLSFGIGTIGGLAGNFFLLYGGTAVLGGFIYLFVPETKGGSLAEI
DQQPGKRRFTLSFGRANTGIPYSRIEISAAS"

1139 C 1102 9 1216 t
                                                                                                                                                                                                                                   Fossey, S.C., Milic, S.J., Craddock, A.L., Mychaleckyj, J.C.,
Dawson, P.A. and Bowden, D.W.
Direct Submission
Direct Submission
Submitted (22-MAR-2000) Molecular Genetics, Wake Forest University,
Medical Center Boulevard, Winston-Salem, NC 27106, USA
                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 4396)
                                                                                                                                                                 the type 2 diabetes linked
                                                                                                                           Fossey,S.C., Mihlc,S.J., Craddock,A.L., Mychaleckyj,J.C.,
Bawson,P.A. and Bowden,D.W.
GLUT10: A novel glucose transporter in the type 2 diabete
region of chromosome 20q12-13.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MetGlyHisSerProProValLeuProLeuCysAlaSerValSerLeuLe 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    251 ATGGCCACTCCCCACCTGTCCTGCCTTTGTGTGCCTCTGTGTCTTTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    eLeulleAspCysTyrGlyArgLysGlnAlaIleLeuGlySerAsnLeuV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps: 0
Percent Identity: 100.000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="glucose transporter"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to: 4396
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                                                                                                                                                                                                                                                                                                                                   Location/Qualiflers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          from: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="GLUT10"
251, 1876
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                                                                                                                                                                                                    Unpublished
2 (bases 1 to 4396)
                                                                                                                                                                                                                                                                                                                                                   4396
                                                                                                                                                                                                                                                                                                                                                                                                                                               1. .4396
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Percent Similarity: 100.000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   alignment_block:
US-09-652-292-2 x AF248053
                                                         Homo sapiens
AF248053.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   939
                                        human
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ORIGIN
                                                       ORGANISM
                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                                                 REFERENCE
AUTHORS
 VERSION
KEYWORDS
                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                               JOURNAL
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                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                             TITLE
                                    SOURCE
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234

950

267

1100

317

334

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Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chr20
This sequence is the entire insert of clone RP1-28H20 This sequence is the entire insert of clone RP1-28H20 This sequence is the entire insert of clone RP1-28H20 This sequence is the entire insert of clone RP1-28H20 This sequence is tinished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. RP1-28H20 is from the library details see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Em: AA113277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /translation="MAAARATTPADGEEPAPEAEALAAARERSSRFLSGLELVKOGAE
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GDLTTSNMILKPPLEQLNIVLIDFGLSFISALPEDKGVDLYVLEKAFLSTHPNTETVF
                    on the WORMPEP database can be round at http://www.sanger.ac.uk/Projects/C.elegans/wormpep This sequence http://www.sanger.ac.uk/Projects/C.elegans/wormpep This sequence as generated from part of bacterial clone contigs of human chromosome 20, constructed by the Sanger Centre Chromosome 20 Mapping Group. Further information can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Complement(join(<1. :562,2463. :3110))
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   867. .1145
/note="AluSx repeat: matches 1. .298 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1251. .1353
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1672. .1797
/note="Mir repeat: matches 8. .135 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1855. 2079
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2155. 2248
2165. 3150
/note="MIR repeat: matches 33. 135 of consensus"
2384. 3150
/note="CpG island"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="supported by FGENESH and GENSCAN continues in Em:AL133520 as dJ101A2.2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="match: STS: Em:HS28H20T"
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/note="3 copies 20 mer 85% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start-1
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3865. .3962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          http://www.chori.org/bacpac/home.htm
VECTOR: pCYPAC2.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /evidence-not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism-"Homo sapiens"
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Direct Submission

Loundited (18-APR-2001) Sanger Centre, Hinxton, Cambridgeshire,
CB10 15A, UK. E-mail enquiries: humquery@sanger.ac.uk
CB10 15A, UK. E-mail enquiries: humquery@sanger.ac.uk
On Mar 7, 1999 plis sequence version replaced gi:4056528.
During sequence assembly data is compared from overlapping clones.
Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.
The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases:
Bm:, EMBL; Sw:, SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Seq_documentation_block:

LOCUS HS28H20 127418 bp DNA PRI 19-APR-2001

DEFINITION Human DNA sequence from clone RPI-28H20 on chromosome 20q13.1

Contains the SLC210 gene encoding a solute carrier family 2

(facilitated glucose transporter) member 10, the 5' end of a novel gene, ESTS, STSS, GSSS and three CpG islands, complete sequence.

ACCESSION AL031055
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Mammalia; Eutheria; Primates; Catarrhin1; Hominidae; Homo.
1 (bases 1 to 127418)
1351 CTTGTCCACTGCTAAGAAAACCAAGCCCCATCCCAGATCTGGAGACCCCT 1400
                                                                                                                                                                                                                                                                               1501 GGTCTTTGTCAGTGCCTTCTCCTTTGGGTTTGGGCCAGTGACCTGGCTTG 1550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1701 #GACCGCTGTCCTCGGCCTGGGCTTCATCTATTTATTTGTTCCTGAAACA 1750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1801 CACCCTGAGCTTTGGCCACAGGCAGAACTCCACTGGCATCCGGTACAGCC 1850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1751 AAAGGCCAGTCGTTGGCAGAGATAGACCAGCAGTTCCAGAAGAGAGGCTT 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           434 alLeuSerGluIleTyrProValGluIleArgGlyArgAlaPheAlaPhe 450
                                                                                                                                                                                                                                                                                                                                                                                                   417 tValPheValSerAlaPheSerPheGlyPheGlyProValThrTrpLeuV 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    484 euThrAlaValLeuGlyLeuGlyPheIleTyrLeuPheValProGluThr 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            501 LysGlyGlnSerLeualaGluIleAspGlnGlnPheGlnLysArgArgPh 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysAsnSerPheAsnTrpAlaAlaAsnLeuPheIleSerLeuSerPheLe 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             eThrLeuSerPheGlyHisArgGlnAsnSerThrGlyIleProTyrSerA 534
                                                                              401 ProalaargGlyHisAlaLeuLeuargTrpThralaLeuLeuCysLeuMe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1851 GCATCGAGATCTCTGCGGCCTCC 1873
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HTG; CpG island; SLC2A10.
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700ce MIR repeat: matches 102. .242 of consensus 9053. .9221  
700te MIR repeat: matches 102. .242 of consensus 90547. .9706  
700te Li2 repeat: matches 2170. .2303 of consensus 90547. .10028  
700te Li2 repeat: matches 2170. .2303 of consensus 9793. .10028  
700te MID repeat: matches 126. .316 of consensus 10038. .10269  
700te MID repeat: matches 126. .316 of consensus 10051. .1059  
700te MID repeat: matches 245. .505 of consensus 10051. .1039  
700te MID repeat: matches 248. .445 of consensus 11232. .11634  
700te MID repeat: matches 2. .409 of consensus 11232. .11634  
700te MID repeat: matches 1. .293 of consensus 11670. .11610  
700te MID repeat: matches 1. .293 of consensus 11670. .11610  
700te MID repeat: matches 1. .128 of consensus 11670. .13192  
700te MID repeat: matches 1. .128 of consensus 11601. .13192  
700te MID repeat: matches 1. .128 of consensus 11310. .13192  
700te MID 1. .13193  
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7606. 11ME repeat: matches 5501. 5739 of consensus*

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                         /note="MERS8A repeat: matches 42. .220 of consensus"
16190. .16304
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/note="L2 repeat: matches 2617. .2657 of consensus"
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16305. .16599
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                     .391
/note="MER21B repeat: matches 299.
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16641. .16803
/note="LIMA10 repeat: matches 6162. .6284 of consensus"
16804. .17190
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/note="MER53 repeat: matches 2. .180 of
19721. .20190
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72.350
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Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mu 1 to 200125) mission (02-MAY-2001) Sanger Centre, Hinxton, Cambridgeshire, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
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1 (bases 1 to 200125) Sims,S. Direct Submission Submitted (02-MAY-2001) Sanger Centre, Hinxton, CB10 1SA, UK. E-mail enquiries: humquery@sanger.
1 (bases 1 to 200125) Sims, S. Direct Submission Submitted (02-MAY-2001) Sanger Centre, Hinxton, Cambridgeshire, CB10 15A, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
Mammalla; Butherla; Rodentia; Sciurognathi; Muridae; Murinae; Mu Mammalla; Lo 200125) Sims,S. Sims,S. Direct Submission Submitted (02-MAY-2001) Sanger Centre, Hinxton, Cambridgeshire, CBIO 15A, UK. E-mail enquiries: hunduery@sanger.ac.uk Clone
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Assembly program: XGAP4; version 4.5
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coverage: 8.32x in Q20 bases; agarose-fp
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* This record will be updated with the finished sequence
* as soon as it is available and the accession number will
* be preserved.
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ACCESSION	AL591805
KEYWORDS SOURCE	
ORGANISM	Mus musculus Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Butaleostomi Mammalia: Entheria: Bodentia: Schimonathi, Musidae, Musidae
REFERENCE AUTHORS	1 (bases 1 to 243075) Sims, S.
TITLE JOURNAL	
	CB10 1SA, UK. E-mails of department in the control of the control
COMMENT	On Jul 7, 2001 this section of the section replaced gi:14625702.
	Center: Sanger Centre Centar code: cr
	Web site: http://www.sanger.ac.uk
	Contact: humquery@sanger.ac.uk Project Information
	Center project name: bM90N15
	Assembly program: XGAP4; version 4.5
	Sequencing vector: plasmid; LO8752; 100% of reads Chemistry: Dye-terminator Big Dye; 100% of reads
	Consensus quality: 238544 bases at least 040
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GlyHisSerProProValLeuProLeuCysAlaSerValSerLeuLeuGl

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NOTE: This is a 'working draft' sequence.
This record will be updated with the finished sequence
as soon as it is available and the accession number will
be preserved.
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302 AlaGlyCysAlaLeuMetAlaLeuSerValSerGlyIleGlyLeuValSe 318	352 SerLeuProProIleProArgThrAsnGluAspGlnArgGluProIleLe 368 [111111111111111111111111111111111111		TAGGGACACTCGAGCTTTAGTGATGGGCAGCGGAGGCTCCAGGGTTCCTT 2105 GCTTATATCAAGGGCTCCCCCATAAGTTTAAATCCAACCACATCTGCAA 2105 GTTTTTAAGCCAACCCTCCCCTGTCCCCGTTGTGGGCACCAACATTTAAA 2104	GGGCTGGCTTGAAGCTTAGACCTATCCCTGAGTGGTTCCATTAGAA 2104 GGGCTGGCTTGAAGAATGTAACGAGTCAGATAAAAAACCAGTCATACCA 2103 GTTTGCCTGGGGGGGGGGGGCCCTTCTGCTTGGCATCGAATGTCTTGTG 2103 CTTTCCCAGGAACCTGAGACTGCCTATTCATGGAGTTCCTCCAGGGGCCCA 2102	430

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Vector: DATION (ACCATGRG)

R. Sitel: DraIII (CACTGRGG)

ATTORNORM was primers and amplified by PCR. The PCR product was digested with Sili and size selection was performed to exclude fragments <1.5kb.The Sili and size selection was performed to exclude fragments <1.5kb.The Sili and size selection was performed to exclude fragments of pwel8s-F13. XnoI sites just outside the DraIII sites can be used to isolate the CDNA insert. Libraries were constructed by Sugano et al. (University of Tokyo, Institute of Key end primer [CTGCTCTAAAAGCTGCG];

3' end primer [CTGCTCTAAAAGCTGCG];

1. Caction primer used for sequencing

1. Caction primer used for sequencing

1. Caction primer used for sequencing

1. Caction primer [CTGCTCTAAAAGCTGCG];
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2 (bases 1 to 4521)
Hashimoto,K., Osada,N., Hida,M., Kusuda,J. and Sugano,S.
Direct Submission
Submitted (09-MAR-2001) Katsuyuki Hashimoto, National Institute of Infectious Diseases, Division of Genetic Resources; 23-1, Toyama 1-chome, Shinjuku-ku, Tokyo 162-8640, Japan (B-mail:khashi@nih.go.jp, URL:http://www.nih.go.jp/yoken/genebank/,Tel:81-3-5285-1111(ex.2120), Fax:81-3-5285-1181)
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R. Sitel: Draili (CACTGTGTG); R. Site2: Draili
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABOS6798.1 GI:13365896
fis (full insert sequence); oligo capping.
fis (full insert sequence); oligo capping.
dacaca fascicularis adult male frontal lobe left cDNA to mRNA,
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Macaca fascicularis
EUKaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AB056798 4521 bp mRNA PRI 14-MAR-2001
Macaca fascicularis brain cDNA clone:QflA-11110, full insert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (sites)
Osada,N., Hida,M., Kusuda,J., Tanuma,R., Iseki,K., Hirai,M.,
Terao,K., Suzuki,Y., Sugano,S. and Hashimoto,K.
Isolation of full-length cDNA clones from macaque brain cDNA
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ELAKVWYKNNISLTSLFFLYYDDLGLPWPQPQKKRPQEQLLECNKLCGRGQSRQLSPEN"
943 C
920 g
1318 L 110 PhealalleSerLeuSerSerMetAlaCysCysIleTyrValSerGluLe 126 126 uValGlyProArgGlnArgGlyValLeuValSerLeuTyrGluAlaGlyI 143 641 691 541 342 TGGGATCATCTCTGGGGCTCTTCTTCAGATCAAAACCTTATTAACCCTGA 391 60 LeuAlaSerLeuValGlyGlyPheLeuIleAspCysTyrGlyArgLysGl 76 76 nAlalleLeuGlySerAsnLeuValLeuLeuAlaGlySerLeuThrLeuG 93 59 10 LeuCysAlaSerValSerLeuLeuGlyGlyLeuThrPheGlyTyrGluLe 592 GTCTCCATCTCCCTCTCCATTGCCACTTGTGTTTACATCGCAGAGAT 642 TGCTCCTCACACACAGAAGAGGCCTTCTTGTGTCACTGAATGAGCTGATGA erCysLeuGluGluPheLeuValGlySerLeuLeuLeuGlyAlaLeu Gaps: 7 Percent Identity: 39.201 Length: to: 4521 from: 1 932.00 2.596 65.154 Align seg 1/1 to: AB056798 alignment_block: US-09-652-292-2 x AB056798 Quality: Percent Similarity: 1340 Ratio alignment_scores: BASE COUNT ORIGIN €3

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20 0	AlaserThrilePheserSerValGlyPheHisGlyGlySerSerAlaV 27.
27	euAlaSerValGlyLeuGlyAlaValLysValAlaAlaThrLeuThr 286
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464	

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208 LysLeuGlyProGlyArgProArg.....

193 laThrHisLysAspLeuIleProLeuGlnGly.....GlyGluAlaPro 207

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 126 uValGlyProArgGlnArgGlyValLeuValSerLeuTyrGluAlaGlyI 143
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160 ThrProTrpGlyTrpArgHisMetPheGlyTrpAlaThrAlaProAlaVa 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        176 lLeuGlnSerLeuSerLeuLeuPheLeuProAlaGlyThrAspGluThrA 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          220 spieupheArgalaargaspasnMetArgGlyArgThrThrValGlyLeu 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            43
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76 nAlaIleLeuGlySerAsnLeuValLeuLeuAlaGlySerLeuThrLeuG 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60 LeuAlaSerLeuValGlyGlyPheLeuIleAspCysTyrGlyArgLysGl 76
                                                                                                                                                                                                                                                                                                                                         to: 141289
                                                                                                                                                                                                                                                                                                                                                                                 10 LeuCysAlaSerValSerLeuLeuGlyGlyLeuThrPheGlyTyrGluLe
                                                                                                                                                                                                                                                                                                                                                                                                                    uAlaValIleSerGlyAlaLeuLeuProLeuGlnLeuAspPheGlyLeuS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43 erCysLeuGluGlnGluPheLeuValGlySerLeuLeuLeuGlyAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23325 TGCTCCTCAACACAGAGGCCTTCTTGTGTCACTGAATGAGCTGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 193 laThrHisLysAspLeuIleProLeuGlnGly......GlyGluAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    216 .....TyrSerPheLeuA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23175 TITGCAAGCAATTGCAATGTATTTTCTTCCTCCAAGC....
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                                                                                                                                                                                                              Percent Identity: 37.500
                                                                                                                                                           Length:
                                                                                                                                                                                        Gaps:
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                                                                                                                                                                                                                                                                                                                                    to reverse of: AL449363
                                                                                                                                                                                                                                                                              US-09-652-292-2 x AL449363/rev
                                                                                                                                                                                2.440
63.136
                        41833 a
                                                                                                                                                        Quality:
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                                                                                                                                alignment_scores:
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                  BASE COUNT
ORIGIN
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CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
requests: clonerequest@stager.ac.uk

On Apr 21, 2001 this sequence version replaced gi:13446493.

During sequence assembly data is compared from overlapping clones.
Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with an alternate as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality) as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one MI3 subclone: and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em. EMBL; Sw.; database can be found at the found at the following active table with their source databases: Em. EMBL; Sw.; database can be found at the Sanger Centre Chromosome 6 constructed by the Fanger centre characted from part of bacterial clone contigs of human Group. Further Information can he found at
                                                                                                                                                                                                                                                                                                                                                                                                                       AL449363 141289 bp DNA PRI 19-APR-2001
Human DNA sequence from clone CTA-444M12 on chromosome 6, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 141289)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        http://www.sanger.ac.uk/HGP/Chr6
CTA-444M12 is from the human BAC library described in U-J. Kim et
al. (1996) Genomics 34, 213-218.
                                                                     480 uLeuTyrGlyLeuThrAlaValLeuGlyLeuGlyPheIleTyrLeuPheV 497
                                                                                                                                   497 alProGluThrLysGlyGlnSerLeuAlaGluIleAspGlnGlnPheGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Further information can be found at
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/db_xref="taxon:9606"
/chromosome="6"
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/clone_lib="CIT978SK-A2"
69075. .69084
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL449363.12 GI:13751478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                              seq_name: gb_pr:AL449363
                                                                                                                                                                                                                                                                                                                                                                                            seq_documentation_block:
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                                                                                                                                                                                                                                           514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
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Birren, B., Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barna, N., Beda, F., Boguslavkiy, L., Boukhqaiter, B., Brown, A., Burkett, G., Campoplano, A., Casile, A., Buukhqaiter, B., Brown, A., Burkett, G., Campoplano, A., Casile, A., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., Densellano, K., Dewar, K., Dodge, S., Domino, M., Doyle, M., Fenestor, J., Ferrelta, P., Fitzhiqh, W., Forrest, C., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Gradyna, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Howland, J.C., Illev, I., Johnson, R., Jones, C., Kann, L., Keratas, A., Klein, J., Landers, T., Largocque, K., Lehoczky, J., Levine, R., Lieu, J., Landers, T., Largocque, K., Lehoczky, J., Levine, R., McKernan, K., McPheeters, R., Medurim, J., McGurk, A., McKernan, R., McPheeters, R., Majdrim, J., McGurk, A., McKernan, R., Menga, V., Norrow, J., Naylor, J., Norman, C.H., O'Connor, T., Tereta, S., Sapacer, B., Stange-Thomannin, N., Stojanove, T., Subramanian, A., Talamas, J., Tesfaye, S., Thoedore, J., Tirrell, A., Travers, M., Trigilio, J., Young, G., Zainoun, J., Zimmer, A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zody,M.

Direct Submission
Submitted (11-FEB-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA
On Mar 1, 2000 this sequence version replaced g1:6960435.
All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Center: Whitehead Institute/ MIT Center for Genome Research
Center code: WIBR
Web site: http://www-seq.wi.mit.edu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Insert size: 176000; agarose-fp
Insert size: 161969; sum-of-contigs
Quality coverage: 4.0 in 020 bases; agarose-fp
Quality coverage: 4.3 in 020 bases; sum-of-contigs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: sequence_submissions@genome.wi.mit.edu
------- Project Information
Center project name: L3635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of 100 bp
contig of 1782 bp in length
of 100 bp
contig of 3226 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13: gap of 100 bp
17758: contig of 4045 bp in length
58: gap of 100 bp
22031: contig of 4173 bp in length
31: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of 100 bp
contig of 2741 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of 100 bp contig of 3997 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contig of 1467 bp in length
sapiens, clone RP11-17F18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --- Genome Center
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13613: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22032 22131: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 1467; c
1468 1567; gap o
1568 3349; c
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9516:
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6675:
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LOCUS AC023293 163569 bp DNA HTG 01-MAR-2000
DEFINITION Homo sapiens clone RP11-17F18, WORKING DRAFT SEQUENCE, 17 unordered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
Eukaryota; Metzoo, Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
22999 ATCTGTTCGTTCAAAAGACAACATGCGGACCCGAATAATGATAGGACTA 22950
                                                      22599 CAACAATACTCTCAGAGACCACTTCAAAGGGATTTCTTCCCATAGCAGA 22550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22499 TCAGCATCCTTGCTAAATGCTGGATTAAGCCACACTGAATACCAGATAGT 22450
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                                                                                                                                                                                                                                                                                                                                                                     22849 GCCTCGCCTCCACTGGGGTTGGAGTCGTCAAGGTCATTAGCACCATCCCT 22800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22699 ACATCCACATGAACTTCACCCATATCTGCAGAAGCCACAATTCTATCAAC 22650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22427 ......GCTTTTTGAAATGGCTGTCCTTA 22404
                                                                                                                                                                                 253 rAlaSerThrIlePheSerSerValGlyPheHisGlyGlySerSerAlaV 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      303 yCysAlaLeuMetAlaLeuSerValSerGlyIleGlyLeuValSerPheA 320
                                                                                                                                                                                                                                                                                                           270 alLeuAlaSerValGlyLeuGlyAlaValLysValAlaAlaThrLeuThr 286
                                                                                                                                                                                                                                                                                                                                                                                                                                  AlaMetGlyLeuValAspArgAlaGlyArgArgAlaLeuLeuLeuAlaGl 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           325 .....SerGlyProSerCysLeuAlaValPr 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        333 oAsnAlaThrGlyGlnThrGlyLeuProGlyAspSerGlyLeuLeuGlnA 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            350 spSerSerLeuPro.....ProlleProArgThrAsnGluAspGln 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      364 ArgGluProlleLeuSerThrAlaLysLysThrLysProHisProArgSe 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        397 lyProProLeuProAlaArgGlyHisAlaLeuLeuArgTrpThrAlaLeu 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               414 LeuCysLeuMetValPheValSerAlaPheSerPheGlyPheGlyProVa 430
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22549 GCTCACTCATGCCCTGAGAATGATGTGGATAAGAGAGGGGAGACGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 163569)
Birren, B., Linton, L., Nusbaum, C. and Lander, E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HTG; HTGS_PHASE1; HTGS_DRAFT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22353 TAAGTACTTTATTCTT 22338
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AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
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SOURCE
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from: 1 to: 163569

to: AC023293

Align seg 1/1

JS-09-652-292-2 x AC023293

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54022 64375: contig of 10354 bp in length 64376 64475: gap of 100 bp 64376 64475: gap of 100 bp 64376 64475: gap of 100 bp 79997: contig of 15522 bp in length 79998 80097: gap of 100 bp 96454 96553: gap of 100 bp 9654 14686: contig of 16356 bp in length 114687 114787: contig of 100 bp 135137: contig of 20351 bp in length 135138 135237: gap of 100 bp 135137: gap of 100 bp 135138 135237: gap of 100 bp 135138 15559: contig of 28332 bp in length 135138 15559: contig of 28332 bp in length 1. 163569: contig of 28332 bp in length 74b_xref*"taxon:9606**
                                                                                    .00 bp
11604 bp in length
                                                                                                                    100 bp
£ 10354 bp in length
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                                              100 bp
7708 bp in length
26657: contig of 4526 bp in length
                     100 bp
7652 bp in length
                                                                                                                                                                                                                                                                                                                                                                                            /clone="RPI1-17F18"
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__stage __3349
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3450. .6675
/note="assembly_fragment"
6776
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32921 c 31208 g 48493 t
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34510 42217; contig of 77
42218 42317; gap of 100
42318 53921; contig of 11
53922 54021; gap of 100
54022 64375; contig of 10
                                  34409: contig of 09: gap of 142217: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vector_side:right"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vector_side:left"
              26757: gap of
34409: con
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63.136
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Ratio:
Percent Similarity:
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ORIGIN
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Gaps: 7
Percent Identity: 37.288

alignment_block:

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54998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55386 .....CCTCGGTTTCTGGTGAAAGGACAAGAGGAGCTGCTAGC 55427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55428 AAGGTT ... CTTGGAAGGTTAAGAGCACTCTCAGATACAACTGAGGAACT 55474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 110 PheAlaIleSerLeuSerSerMetAlaCysCysIleTyrValSerGluLe 126
                                                                                                                                                                                                                                                                                                                                                              93 lyLeuAlaGlySerLeuAlaTrpLeuValLeuGlyArgAlaValGly 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         126 uValGlyProArgGlnArgGlyValLeuValSerLeuTyrGluAlaGlyI 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                143 leThrValGlyIleLeuLeuSerTyrAlaLeuAsnTyrAlaLeuAlaGly 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160 ThrProTrpGlyTrpArgHisMetPheGlyTrpAlaThrAlaProAlaVa 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           176 lLeuGlnSerLeuSerLeuLeuPheLeuProAlaGlyThrAspGluThrA 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  253 rAlaSerThrIlePheSerSerValGlyPheHisGlyGlySerSerAlaV 270
                                                                            43
                                                                                                                                                                                                                 60 LeualaSerLeuValGlyGlyPheLeuIleAspCysTyrGlyArgLysGl 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyLeuValLeuPheGlnGlnLeuThrGlyGlnProAsnValLeuCysTy 253
     56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         270 alleuAlaSerValGlyLeuGlyAlaValLysValAlaAlaThrLeuThr 286
                                                                                                                                           10 LeuCysAlaSerValSerLeuLeuGlyGlyLeuThrPheGlyTyrGluLe
                              54849 CIGICATCIGICACTGCTGTCAGIGGCCTCCTGGTGGTGTAIGAACT
                                                                    26 uAlaValIleSerGlyAlaLeuLeuProLeuGlnLeuAspPheGlyLeuS
                                                                                         76 nAlalleLeuGlySerAsnLeuValLeuLeuAlaGlySerLeuThrLeuG
                                                                                                                                                                                                                                                                                                                                                                                       55099 TCCTCAGTTTATCCTACACGGTTCTTATAGTGGGACGCATTGCCATAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193 laThrHisLysAspLeuIleProLeuGlnGly......GlyGluAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    220 spleuPheArgAlaArgAspAsnMetArgGlyArgThrThrValGlyLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            208 LysLeuGlyProGlyArgProArg......
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Glaser, P. Direct Submission Submitted (13-MAR-1997) Philippe Glaser, Regulation de l'Expression Genetique, Institut Pasteur, 28 Rue du Dr Roux, Paris, 75724, FRANCE Location/Qualifiers 1. 8189 /organism="Bacillus subtilis" /db_xref="taxon:1423" 1. 1069 /gene="ywsC" /1. 1069 /gene="ywsC" /note="product highly similar to Bacillus anthracis CapB	CONTRACTOR AND	/gene="ywta" /note="product highly similar to Bacillus anthracis CapC protein" /codon_start=1 /transl_table=11 /protein_id="CaB07468.1" /protein_id="CAB07468.1" /db_xref="G1:184766" /db_xref="G1:184766" /db_xref="STREMBL:P96737" /translation="MPGSDLYTALILGVLSLIFAEKTGIVPAGLVVPGYLGLVFNQP /translation="MPGSDLYTALILGSGARFAINTGIVLINFEI AERRGIGIIVPGLIANTIQKQGLTITFGSTLLLSGARFAINFVYL1" 1538. 1544 /gene="ywtb" 1538. 2694	J5522694 J5522694 J6522694 J6522694 J6522694 J6522694 J6022894 J6022894 J600_start=1 J700_start=1 J700_start=1
AUTHORS TITLE JOURNAL FEATURES SOURCE gene CDS	RBS gene	RBS gene	RBS gene
			· · · · · · · · · · · · · · · · · · ·
GCCTCGCCTCCACTGGGGTTGGAGTCGTCAAGGTCATTGCCACTCCCT AlaMetGlyLeuValaspargalaGlyArgArgAlaLeuLeuLeuAlaGl	325SerGlyProSerCysLeuAlaValPr 333 55875 CAGTCCTTGGATGATTTTTGATCATTTTTTTTTTTTTTT	GACGTC OAlaar alphev 11:::} TTTATG TLeu 43 11: 11: 11: 554	Seq_documentation_block: LOCUS BS292954 BSE7 24-JUN-1998 BDEFINITION B. Subtilis yws[A,B,C,D,E,F,G] and gerBC genes. ACCESSION 292954. VERSION 292954. CERSION 292954. C

gene

RBS

CDS

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WRWMLGLAAVPSELLLIGILFWEESPRWLFTWGEESRAKKILEKLRGTKDIDOEHDI

KEARKQDEGGIKELFDPWVRPALIAGLGLAFLOQFIGTNTIIYYAPKTFTWGFGNSA

SILGTVGIGTVWULMTLVAHRIDKTGKRFULLERGNAGWYISIJIALHVGTRIA

ASWTYYJCLGYPIYOFROWWWHPELFPLHVRGIGTGYSTLAHHVGTLIYSLY

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17 LeuGlyGlyLeuThrPheGlyTyrGluLeuAlaValIleSerGlyAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6651 CTTGGAGGCGCGTTATATGGCTATGATACCGGAGTGATTTCCGGAGCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                33 uLeuProLeuGlnLeuAspPheGlyLeuSerCysLeuGluGlnGluPheL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 50 euValGlySerLeuLeuLeuGlyAlaLeuLeuAlaSerLeuValGlyGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   67 PheLeuIleAspCysTyrGlyArgLysGlnAlaIleLeuGlySerAsnLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100 rpLeuValLeuGlyArgAlaValValGlyPheAlaIleSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    117 MetalaCysCysIleTyrValSerGluLeuValGlyProArgGlnArgGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    133 yValLeuValSerLeuTyrGluAlaGlyIleThrValGlyIleLeuLeuS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length: 531
Gaps: 8
Percent Identity: 30.132
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1.976
59.699
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                                                          'translation-"MKFVKAIWPFVAVALVFWFMSAFKFNDQLTDQEKQKIDMEMNKI
                                                                                                                                                                                                                                                                                                                                                                                                          /LTAGGAL 101-THEADLY 1904 40

NLLGYOYKYGGETPKEGFDFSGLIQYVFSKADIHLPRSVNDQYKIGTANKPENIKPGD
NLLGYOYKYGGETPKEGFDFSGLIQYVFSKADIHLPRSVNDQYKIGTANKPENIKPGD
NLLGYOYKYGGETVYPTHDALYIGDGQWHSTQSKGVIIINYKKSSYNSGTYIGARRIAA
DPATADYDVYQEAEKYIGYPYYFGGSTPSEFDFSGLVOYVFOOALGIYLPRSAEQQM
AVGEKVAPQNIKFGENYYFSNNTYKTGISHAGIYAGAGRFIQASRSEKYTISYLSEDYW
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AGISLPRTATSQYNAGTKIEKADLKPGDIVFFOSTSLNPSIYIGNGOVYHTLSNGYT
1TNMMYSTYNKDKYAGSIRVQ"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TFDVKALLDDLDIPITAANGGTILKSTAINLOYSTAINLATAKAVDA LIVILCIGKA
TFDVKALLDDLDIPITAANGGTILKSTAINLOSAGKALADYLLSKNIYFEVY
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DIYGIETQDIYAJGDSPNDLSMFEVAGHRIAMBNAIDELKEKSTFVTKSNDENGVAYF
IDQLLSGQYA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'translation="MKCIAIDLDGTLLNKESVISAENREAIKRAVDAGILVTICTGRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="product similar to Bacillus subtilis YxeH and YCSE proteins and to E. coli YidA protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note-"an in frame TGA stop codon is found at position
                                                                                                                                                                                                                                                                        product similar to E. coli NLPC protein and to a species p60-related proteins"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5599 to 5601
ranslation similar to Bacillus subtilis LytR protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="ywtG"
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Kunst, F., Ogasawara, N., Yoshikawa, H. and Danchin, A.
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addanchin@pasteur.fr Phone: +33 (0)1 45 68 84 41, Fax: +33 (0)1 45
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/gene="yvnA"
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                               TITLE
JOURNAL
AUTHORS
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......AATAACA 94880
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94598 GAGACAAAGGGAAGAAGCCTTGAAGAAATTGAGCAGGATTTACGGGACAA 94549
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             365 uProlleLeuSerThrAlaLysLysThrLysProHisProArgSerGlyA 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 382 spProSerAlaProProArgLeuAlaLeuSerSerAlaLeuProGlyPro 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482 yrGlyLeuThrAlaValLeuGlyLeuGlyPheIleTyrLeuPheValPro 498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GluThrLysGlyGlnSerLeuAlaGluIleAspGlnGlnPheGlnLysAr 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         332 alProAsnAlaThrGlyGlnThrGlyLeuProGlyAspSerGlyLeuLeu 348
                                          232 hrThrValGlyLeuGlyLeuValLeuPheGlnGlnLeuThrGlyGlnPro 248
                                                                                                                                                                                                                                                                                                ....GGTCTGAAGGAGCTGTTCGATCCATGG.....GTGCGCCCAGCGC
                                                                :|||||||::::::
94905 TTTAGTAAATCTCTTTTTC......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              432 rpLeuValLeuSerGluIleTyrProValGluIleArgGlyArgAlaPhe
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                                                                                                                                                      LeuLeuLeuAlaGlyCysAlaLeuMetAlaLeuSerValSerGlyIleGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  399 ProLeuProAlaArgGlyHisAlaLeuLeuArgTrpThrAlaLeuLeuCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        415 sLeuMetValPheValSerAlaPheSerPheGlyPheGlyProValThrT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                465 rPheLeuAspLeuIleGlyThrIleGlyLeuSerTrpThrPheLeuLeuT
                                                                                                                          AsnValLeuCysTyrAlaSerThrIlePheSerSerValGlyPheHisGl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gArgPheThrLeuSerPheGlyHisArgGlnAsnSerThrGly 529
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94879 CTCCGGCTGCC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95681 AAGCTGACTGACCGTTTCGGAAGAAAAAAGCAATTATGGCAGCCGCGT 95632
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95284 AAGCCAAGAAAATTCTTGAAAAATTGCGTGGCACAAAAGATATTGATCAG 95235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95631 GCTGTTTTGTATAGGCGGTCTTGGTGGCACTGGCCCCAAATACAGGAG 95582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 uValLeuLeuAlaGlySerLeuThrLeuGlyLeuAlaGlySerLeuAlaT 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                erTyrAlaLeuAsnTyrAlaLeuAlaGlyThrProTrpGlyTrpArgHis 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rpLeuValLeuGlyArgAlaValValGlyPheAlaIleSerLeuSerSer 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            yValLeuValSerLeuTyrGluAlaGlyIleThrValGlyIleLeuLeuS 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183 uPheLeuPro.....AlaGlyThrAspGluThrA 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             215 gTyrSerPheLeuAspLeuPheArgAlaArgAspAsnMetArgGlyArgT 232
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                                                                                                                                                                                                                                                                                                                                                                                                      17 LeuGlyGlyLeuThrPheGlyTyrGluLeuAlaValIleSerGlyAlaLe 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          33 uLeuProLeuGlnLeuAspPheGlyLeuSerCysLeuGluGlnGluPheL 50
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59.699
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Ratio:
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COMPLEMENT (2279. .3643)
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                                                                                                                                                                                                                                            QKRLLSVKEIADYAVFLASEKAKGVTGQAVVLDGGYTAQ"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /protein_id="CAB15934.1"
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/db_xref="G1:2636446"
/db_xref="SWISS-PROT:P42314"
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                                                                                                                                                                                                                                                                                                                                                             complement(837. .1487)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kunst, F., Ogasawara, N., Moszer, I., Albertini, A.M., Alloni, G., Azevedo, V., Bertero, M.G., Bessieres, P., Bolotin, A., Borchert, S., Bacvedo, V., Bertero, M.G., Bessieres, P., Bolotin, A., Borchert, S., Baretrio, C. V., Caldwell, B., Capuano, V., Carter, N.M., Chol, S.K., Codani, J.J., Connerton, I.F., Cummings, N.J., Daniel, R.A., Denizot, F., Devine, K.M., Dusterhoft, A., Ehrlich, S.D., Emmerson, P. T., Entian, K.D., Errington, J., Fabrer, C., Ferrari, E., Foulger, D., Fritz, C., Fujita, M., Fujita, Y., Fuma, S., Galizzi, A., Galleron, N., Gim, S.Y., Glaser, P., Goffeau, A., Golightly, E.J., Gandin, J., Hager, M., Holbert, H., Holsappel, S., Hosono, S., Hullo, M.F., Harwood, C. R., Klaerr-Blanchard, M., Klein, C., Kobayashi, Y., Koetter, P., Koningstein, G., Kuogh, S., Kumano, M., Lee, S.M., Levine, A., Liu, H., Masuda, S., Maula, S., Maulado, R.P., Mazuno, M., Moesti, D., Nakai, S., Noback, M., Noone, D., O'Reilly, M., Ogawa, K., Ogiwara, A., Oudega, B., Park, S.H., Parro, V., Pohl, T.M., Purnolle, B., Rapoport, G., Rey, M., Reynolds, S., Sato, T., Sato, T., Sconlan, E., Schielch, S., Schroeter, R., Sozdon, E., Sato, T., Sekowska, A., Seror, S.J., Serror, P., Shim, B.S., Soldo, B., Sato, T., Sekowska, A., Seror, S.J., Serror, P., Shim, B.S., Soldo, B., Takeuchi, M., Tanakoshi, H., Takabashi, H., Takabaru, T., Takabaru, T., Takabaru, T., Takabaru, T., Takabaru, T., Tayan, Y., Waliters, P., Willer, K., Wedler, E., Wedler, H., Weitzenegger, T., Vasian, K., Yasian, K., Yoshikawa, H.F., Zumstein, E., Yoshikawa, H. F., Zumstein, E., Yoshikawa, H. end
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                                                                                        seq_documentation_block:
LOCUS BSUB0021 215534 bp DNA BCT 26-NOV-1997
DEFINITION Bacillus subtilis complete genome (section 21 of 21): from 3999281
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Direct Submission
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Bacteria: Firmicutes: Bacillus/Clostridium group;
Bacillus/Staphylococcus group; Bacillus.
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complement(11. .37)
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                    seq_name: gb_ba:BSUB0021
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//brotein_id="Cabi5938.1"
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//db.xref="SMISS-PROT: P42312"
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//translation="MYFLANLVGLIVIMAVFPSWAMATVTVFFFSALLPITFIVF
FFDILTYFGILPWLIDNIGWYISKASRLPKLESFFIOWMFLGNTEALAVIRQOLTVL
SNNRLLTFGLAMSMSSISGSIIGSYLSWYPATVFTAIPLNCIMALIIANLLNPHVPRE
EGSHLNALCGFDYAGKAAIGTGIDLSKDGILKASKAFKDLMWAVADVARAPFHDRQFD
VVLSIFSPSNYAEFHRLLKNDGMLIKVVPRSDYLIELRQFLYTDSPRRTYSNTAAVER
FTANAAHSRPVRLRYVKTLDQQAIHWLLKMTPLAWSAPKDRVSLLKEWKSADITVDVD
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LTNOTIFAYLFSPFAFLLGLPVHDAMYVAOLMGMKLATNEFVAMLDLKNNLKSLPPHT
VAVATTFLTSFANFSTVGMIYGTYNSILDGEKSTVIGRNVWKLLVSGIAVSLLSAAIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /translation="MKWNNMCKAAGIAVLLFSVFAYAAPSLKAVQAKTPTVSTHTYKK
IKELTYPQVHHVGNAAFEKKINQELKAYMDNRIRNT"
complement(7290. .7306)
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LneslkktmddlvvpkheaehipdqtviavlemfgntdlaqalheaisGrkq"
                                                                                                                                            /note="similar to pyrimidine nucleoside transport"
/codon_start=1
/transl_table=11
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Percent Identity: 29.038
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/db_xref="GI:2636449"
/db_xref="SWISS-PROT:P42311"
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/db_xref="GI:2636450"
/db_xref="SWISS-PROT:P42310"
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/gene="yxis"
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/gene="yx1T"
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/gene="yx15"
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                                                              5261. .6489
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Allarity: 58.846
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US-09-652-292-2 x BSUB0021
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87910
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            312 rGlyIleGlyLeuValSerPheAlaValProMetAspSerGlyProSerC 329
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                                                                                                                                                                                                                                                                     87761 CATTTTATTATCGGTGCGCTCGCTTGCGCATTTTCTCAAACAATCGGCA
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REFERENCE 1 (b AUTHORS YOShi TITLE Direc JOURNAL Ken-i Ken-i Ren-i Ren-i Ren-i Ren-i Ren-i Ren-i TITLE OLG	., -		MEDLINE MICTOR MEDLINE POBBED 795216 REFERENCE 6 (s) TITLE GLODII TITLE GEOOME JOURNAL DNA FEFERENCE 96093 REFERENCE 7 (s) AUTHORS FUJICE OFGENI	e O	gene
	roinatysturiolietuserintalystystnikysprohi	### ### ### ### ### ### ### ### ### ##	462 eSerLeuSerPheLeuAspLeuIleGlyLhrIleGlyLeuSerTrpThrP 479 :	seq_name: gb_ba:AB005554 seq_documentation_block: LOCUS AB005554 36448 bp DNA BCT 25-JUL-1997 DEFINITION BACILIUS subtilis genomic DNA, 36 kb region between gnt and iol ACCESSION AB005554 D45242 D31629	VERSION AB005554.1 GI:2280496 KEYWORDS probable transcriptional regulator; inositol operon repressor; probable transcriptional regulator; inositol operon repressor; probable sugar transporter; probable HipG protein; probable oxidoreductase; probable aledyde dehydrogenase; probable asparagine synthetase; probable transporter; probable glucose 1 dehydrogenase; gluconate operon repressor; gluconate kinase; gluconate permease; probable 6-phosphogluconate dehydrogenase; gntZ; gntP; gntR; yxad; yxbd; dolA; iolB. SOURCE Bacillus subtilis (strain:BGSC lAl) DNA. ORGANISM Bacillus subtilis Bacillus/Staphylococcus group; Bacillus.

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ida,K.
ct Submission
iitted (27-JUN-1997) to the DDBJ/EMBL/GenBank databases.
ichl Yoshida, Fukuyama University, Department of Biotechnology;
Sanzo Higashimura-cho, Fukuyama, Hiroshima 729-02, Japan
iail:Kyoshida@bt.fubt.fukuyama-u.ac.jp, Tel:0849-36-2111,
0849-36-2023)
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ing and nucleotide sequencing of a 15 kb region of the Bacillus
ills genome containing the iol operon
obiology (Reading, England) 140 (Pt 9), 2289-2298 (1994)
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eotide sequence and features of the Bacillus licheniformis gnt
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29:Submitted (23-yan-1994)
42:Submitted (23-yan-1995).
Location/Qualifiers
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tra, Y., Fujita, T., Miwa, Y., Nihashi, J. and Aratani, Y.

tra, Y., Fujita, and transcription of the gluconate operon, gnt, of fillus subtilis

Journal of biological chemistry. 261 (29), 13744-13753 (1986)
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ing and sequencing of a 36-kb region of the Bacillus subtilis
me between the gnt and iol operons
research: an interrnational journal for rapid publication of
rison genes and genomes. 2 (2), 61-69 (1995)
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ense mutations in the Bacillus subtilis gnt repressor that
nish operator binding ability
nal of molecular biology. 231 (2), 167-174 (1993)
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379	Ħ	(*)
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Lactobacillus brevis.
Lactobacillus brevis
Bacteria, Firmicutes; Bacillus/Clostridium group; Lactobacillaceae;
Lactobacillus.
1 (bases 1 to 5957)
Chaillou,S., BorY.C., Batt,C.A., Postma,P.W. and Pouwels,P.H.
Wolecular cloning and functional expression in Lactobacillus
plantarum 80 of xylT, encoding the D-xylose-H+ symporter of
Lactobacillus brevis.
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S Bor, Y.-c. and Batt, C.A.

Direct Submission

Location (30-JAN-1998) Food Science, Cornell University, 312

Stocking Hall. Ithaca, NY 14883, USA

Location/Qualifiers

I. :5930

/db_xref="taxon:1580"

c_feature 1230. :2880

/gene="xyl operon"

/note="xyl operator"

location (300-30)

/gene="xyl operator"

/note="xyl operator"

location (300-30)

/gene="xyl operator"

/note="xyl operator"

location (300-30)

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LOCUS AF045552 5957 bp DNA BCT 12-DEC-1998
DEFINITION Lactobacillus brevis xyl operon and xylose isomerase (xylA),
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complete cds.
                                                                                                                                                  30054 AGTAGTCTTTCTCGGTGTCTATATCGTCTTTTACCAGGCGACATGGGGTC 30005
                                                                                                429 roValThrTrpLeuValLeuSerGluIleTyrProValGluIleArgGly 445
                                                                                                                                                                                                                                                                                                         479 heLeuLeuTyrGlyLeuThrAlaValLeuGlyLeuGlyPhelleTyrLeu 495
                                                                                                                                                                                                                                462 eSerLeuSerPheLeuAspLeuIleGlyThrIleGlyLeuSerTrpThrP 479
412 aLeuLeuCysLeuMetValPheValSerAlaPheSerPheGlyPheGlyP 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Appl. Environ. Microbiol. 64 (12), 4720-4728 (1998) 99054905
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Bor,Y.-c. and Batt,C.A.
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4796 GCATTGATTCCGACGTATTTGGCTGAATTGGCACCGTCTGATAAGCCAGG 4845
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                                                                                                                                                                                                                                                                                                                                                                                                  83 uValLeuLeuAlaGlySerLeuThrLeuGlyLeuAlaGlySerLeuAlaT 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       117 MetalaCysCysIleTyrValSerGluLeuValGlyProArgGlnArgGl 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       133 yvalLeuValSerLeuTyrGluAlaGlyIleThrValGlyIleLeuLeuS 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          150 erTyrAlaLeuAsnTyrAlaLeuAlaGlyThrProTrpGlyTrpArglis 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             195 HisLysAspLeuIleProLeuGlnGlyGlyGluAlaProLysLeuGlyPr 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             211 oGlyArgProArgTyrSerPheLeuAspLeuPheArgAlaArgAspAsnM 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          228 etargGlyArgThrThrValGlyLeuGlyLeuValLeuPheGlnGlnLeu 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               245 ThrGlyGlnProAsnValLeuCysTyrAlaSerThrIlePheSerSerVa 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261 lGlyPheHisGlyGlySerSerAlaValLeuAlaSerValGlyLeuGlyA 278
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                                         311 lSerGlyIleGlyLeuValSerPheAlaValProMetAspSerGlyProS
                                                                      .....CTGTTCGTTATGAGCATCGGGATGAAGTTCTCAGGTGGGTCAC
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                                                                                                                                                         345 SerGlyLeuLeuGlnAspSerSerLeuProProlleProArgThrAsnGl
                                                                                                                                                                                                                                                                           378 roArgSerGlyAspProSerAlaProProArgLeuAlaLeuSerSerAla
                                                                                                                                                                                                                                                                                                                                                                                             411 rAlaLeuLeuCysLeuMetValPheValSerAlaPheSerPheGlyPheG
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Sequence 7 from Patent W00104145.
AX076673 AX076673.1 GI:12711204
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LEBAARROPOODE PROFESTIONE CONTRACTOR CONTRAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          858
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               459 ACCCCCCCCTTCGTGTACGTGGCCGTCTTCTCCGCCGCTGGGCGGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20 uThrPheGlyTyrGluLeuAlaValIleSerGlyAlaLeuLeuProLeuG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             54 LeuLeuLeuGlyAlaLeuLeuAlaSerLeuValGlyGlyPheLeuIleAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGGTGGGGGGGGGGTGCCGTCTCGGCGGGGGCGGGCCCTCAACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              559 AGCGGCAGCTCTAGTCTGGCTGTGGCAGGAGCTGCTGGTGTCCAGC
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Gaps: 15
Percent Identity: 30.537
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                             /protein_id="CAC28498.1"
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/codon_start=1
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186	roAlaGly188 :: CTGAAGGCTTATTCAGAAAGGACAGACTCAGAAGGCCCGT 1058	
18	A1 193	
1059	AGAATTTTATCTCAGATGCGTGGTAACCAGACCATTGATGAGGAATATGA 1108	
193	######################################	
210	lyProGlyArgProArgTyrSerPheLeuAspLeuPheArgAlaArg 225	
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242 1238	nGlnLeuThrGlyglnProAsnValLeuCysTyrAlaSerThrIlePhes 259 	
259 1288	erSerValGlyPheH1sGlyGlySerSerAlaValLeuAlaSerVal 274 :: ::	
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305 1432	laLeuMetAlaLeuSerValSerGlyIleGlyLeuValSerPheAla 320 :: :: :: ::::	
321 1482	GTTCCCCACGCATCACTTTTAAGCCAATAGCTCCGTCAGGTCAGAACGC 1531	
327 1532	OSerCysLeuAlaValProAsnAlaThrGlyGlnThrGlyLeuProGlyA 344 :::	
344	<pre>spSerGlyLeuLeuGlnAspSerSer 352 </pre>	
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391	yProProLeuProAlaArgGlyHisAla	
1748	1748	
407	uLeuArgTrpThrAlaLeuLeuCysLeuMetValPheValSerAlaPheS 424	

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	+ rgGlnasnSerThrGlyIleProTyrSerArgIleGlu 536 	524
2091		2042
524	ulleAspGlnGlnPheGlnLysArgArgPheThrLeuSerPheGlyH18A 524	507
2041	1992 CTTTTCATCTATGGCTGTCTTCCTGAGACCAAAGGCCAAAAATTAGAGGA 2041	199:
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1991	:::	1942
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1941		189
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1891	:::	1842
457	ValGlulleArgGlyArgAlaPheAlaPheCys	441
1841	:: ::: :: 1792 CACCTGGAATGGGACCAATGCTTGGACTGTGAATTCTGAAATATATCCC 1841	179:
*	424 erriectyriectyriovatilititheuvatueusetstuttettu 440	7

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